REMARKS

In accordance with the present invention, there are provided novel cycloaliphatic epoxy compounds and thermosetting resins prepared therefrom. Invention compounds provide resins with desirable characteristics such as, for example, hydrophobicity, high Tg values, ionic purity, hydrolytic stability, and the like. Invention compounds are based on polycyclic hydrocarbon backbones comprising oligomers of the inexpensive and readily available monomer cyclopentadiene. The oligomers are easily synthesized via Diels-Alder chemistry. Thus, invention compounds also provide economic benefit in addition to their exceptional performance characteristics.

By the present communication claim 4 has been amended to define Applicants' invention with greater particularity and not in response to any properly citable reference. In addition, claims 1-3, 5-7, and 14-22 (i.e., the claims which were allowed in the parent application) have been cancelled in the present application without prejudice. Thus, upon entry of this amendment, claims 4 and 8-13 will be pending.

In view of the above amendments and remarks, consideration and favorable action on all pending claims are respectfully requested. If any matters remain after consideration of this communication, the Examiner is invited to contact the undersigned at the telephone number set forth below so that a prompt disposition of this application can be achieved.

Respectfully submitted,

Date: December 18, 2001

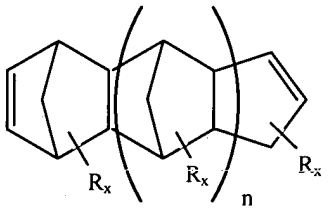
Stephen E. Reiter
Registration No. 31,192
Telephone: (858) 847-6711
Facsimile: (858) 792-6773

Foley & Lardner
P.O. Box 80278
San Diego, California 92138-0278

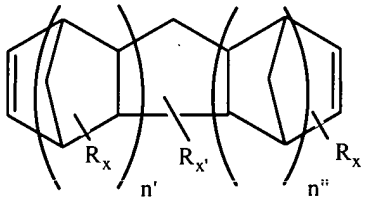
Enclosure: Appendix

APPENDIX

4. (Amended) **[An epoxy according to claim 1, wherein said trimers and tetramers comprise]** A cycloaliphatic epoxy monomer derived from one **[or more]** of the following structures:



(I)



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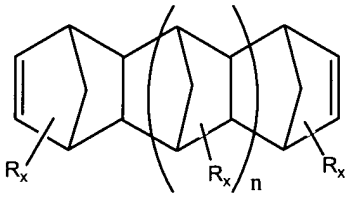

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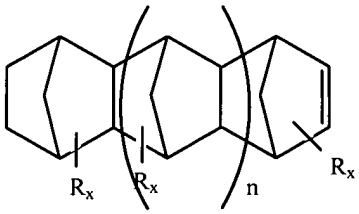

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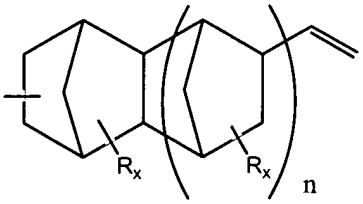

(XVII)

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wherein:

each R is independently a lower alkyl or a halogen,

n is 1 or 2,

the sum of n' + n'' is 2 or 3,

each x is independently 0, 1, or 2, and

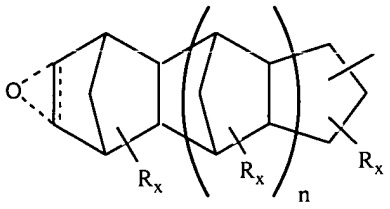
x' is 0, 1, or 2.

8. (Reiterated) A bifunctional monomer according to the following structure:

X – Y – Z

wherein:

X is a trimer or tetramer of optionally substituted cyclopentadiene bearing at least one functional group, or a radical having one of the following structures: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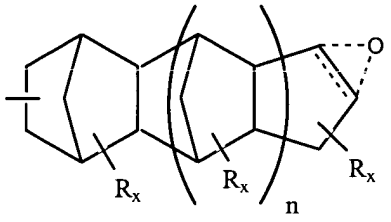
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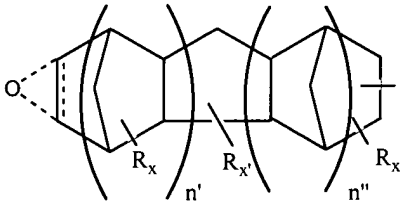
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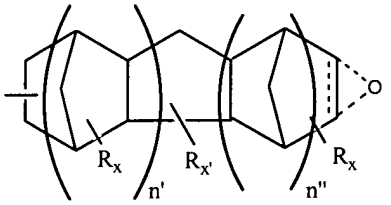
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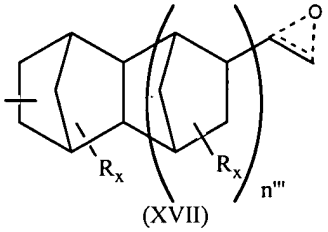
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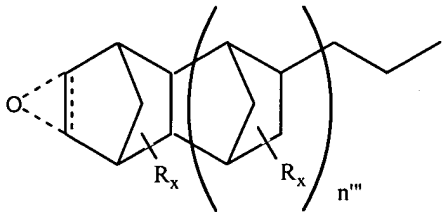
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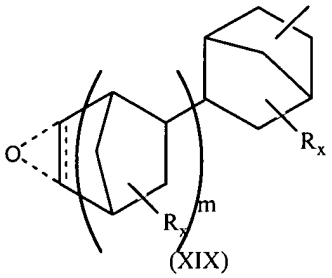
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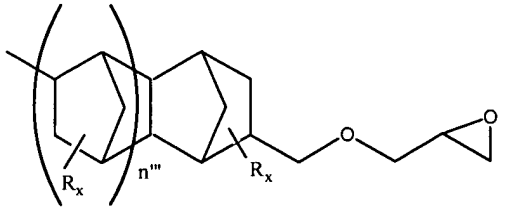
(XX)

wherein:

each R is independently lower alkyl or halogen,

n is 1 or 2,

the sum of n' + n'' is 2 or 3,

n''' is 0 up to about 8,

m is 1 up to about 9,

each x is independently 0, 1, or 2, and

x' is 0, 1, 2;

Y is an optional bridging group,

Z is a trimer or tetramer of an optionally substituted cyclopentadiene moiety bearing at least one functional group, a radical having one of said structures (XIII), (XIV), (XV), (XVI), (XVII), (XVIII), (XIX), or (XX), an epoxy or a cycloaliphatic moiety bearing at least one functional group,

wherein at least one of said functional groups on said bifunctional monomer is epoxy.

9. (Reiterated) A bifunctional monomer according to claim 8, wherein Y is a siloxane.

10. (Reiterated) A bifunctional monomer according to claim 9, said siloxane having the structure:

$$-(CR''_2)_{m'}-(Si(R''')_2-O)_{q'}-Si(R''')_2-(CR''_2)_{m''}-$$

wherein:

each R'' is independently oxygen, a lower (oxy) alkyl or halogen,

each R''' is independently selected from hydrogen, oxygen, lower (oxy) alkyl or (oxy) aryl,

m' falls in the range of 0 up to about 10,

m'' falls in the range of 0 up to about 10, and

q' falls in the range of 1 up to 50.

11. (Reiterated) A bifunctional monomer according to claim 8, wherein Y is aromatic groups having the structure:

$$Z' \left(O - (C)_{0.1} - Ar \right)_{m''}$$

wherein:

m``= 1, 2 or 3,

each Ar is a monosubstituted, disubstituted or trisubstituted aromatic or heteroaromatic ring having in the range of 3 up to 10 carbon atoms, and

Z` is a high molecular weight branched chain alkyl, alkylene or alkylene oxide species having from about 12 to about 500 atoms in the backbone thereof,

as well as mixtures thereof.

12. (Reiterated) A bifunctional monomer according to claim 8, wherein said substituents are independently lower alkyl or halogen.

13. (Reiterated) A bifunctional monomer according to claim 8, wherein said functional groups are maleimido, norbornyl, cyanate ester, (meth) acrylates, anhydrides, carboxylic acids, amines, amides, sulfides, or polyhydroxy hydrocarbyls.